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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,537	07/20/2001	Jason S. Reid	P21-US	2129
26148	7590	12/03/2003	EXAMINER	
REFLECTIVITY, INC. 350 POTRERO AVENUE SUNNYVALE, CA 94085			DUONG, KHANH B	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/910,537

Applicant(s)

REID, JASON S.

Examiner

Khanh Duong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 and 55-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 55-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5                      6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Response to Amendment***

This Office Action is in response to the Amendment filed on September 11, 2003.

Accordingly, claims 25-54 and 67-70 were cancelled, and claims 1, 9, 10, 24, 55, 63 and 64 were amended.

Currently, claims 1-24 and 55-66 are pending in this application.

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

The indicated allowability of claims 26 and 67 is withdrawn in view of the newly discovered reference(s) to Linder et al. ("Ternary Ta-Si-N Films for Sensors and Actuators", Sensors and Actuators, Vol. A61 (1997), pp. 387-391) and Oyama et al. (US 5,444,173).

Rejections based on the newly cited reference(s) follow.

\*\*\* Linder et al. was submitted by Applicants in IDS Paper No. 5.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 55-63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

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Claim 55 recites the limitation “the element from groups 3A to 6A of the periodic table”.

There is insufficient antecedent basis for this limitation in the claim.

\*\*\*Other claims are rejected as depending on rejected base claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-24 and 55-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (“Ternary Ta-Si-N Films for Sensors and Actuators”, Sensors and Actuators, Vol. A61 (1997), pp. 387-391) in view of Oyama et al. (US 5,444,173).**

Linder et al. discloses in Fig. 3 (see also associated text) a micromechanical device (MEMS sensor, actuator, micromirror, optical switch, etc.) having at least a portion comprising a nitride compound and an early transition metal (TaSiN), wherein the nitride compound and the early transition metal are in the same film and wherein the film is a ternary system deposited by chemical or physical vapor deposition. Linder et al. further discloses in Fig. 3 the

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micromechanical device comprising a silicon substrate, a movable element formed on the substrate and a sputtered hinge for allowing movement of the movable element relative to the substrate.

Re claims 1-3, 5, 6, 8-18, 20-24, 55-62 and 64, Linder et al. discloses using an early transition metal nitride instead of a late transition metal nitride.

Oyama et al. discloses oxynitrides and nitrides comprising transition metals (early and/or late transition metals) are equivalent materials known in the art (see entire Abstract).

Since Linder et al. and Oyama et al. are both from the same field of semiconductor device manufacturing, the purpose disclosed by Oyama et al. would have been recognized in the pertinent prior art of Linder et al..

Therefore, because these two compounds were art recognized equivalents at the time of the invention was made, one of ordinary skill in the art would have found it obvious to substitute one material for the other. Although the exact content of oxygen in the nitride or oxynitride layer was not specified by Oyama et al., it appears that having a specific oxygen content as claimed is prima facie obvious due to the fact that one can vary the oxygen content in order to achieve a specific stable compound. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined process of Linder et al. and Hu in view of Oyama et al., by selecting a suitable oxygen content for the oxynitride layer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

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Re further claims 4, 7, 19, 63, 65 and 66, since Oyama et al. suggests the use of both early and late transition metal silicon nitrides, it would have been obvious to select any transition metal silicon nitride as the material for the micromechanical device, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

### *Conclusion*

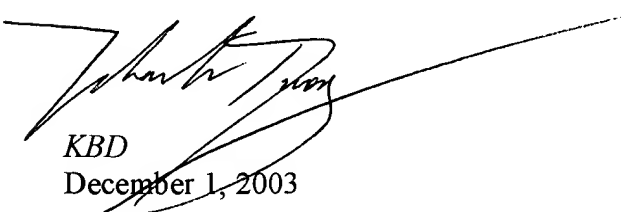
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

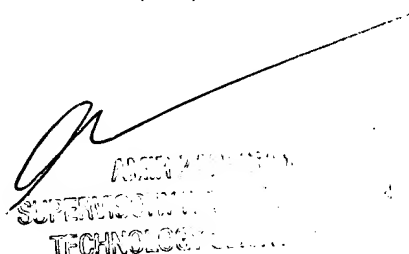
See Notice of References Cited for relevant teachings related to the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Duong whose telephone number is (703) 305-1784. The examiner can normally be reached on Monday - Friday (9:00 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian, can be reached on (703) 308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
KBD  
December 1, 2003

  
SUPERTECHNOLOGY